

## ABSTRACT OF THE DISCLOSURE

A hologram that can obtain high diffraction efficiency when reconstructed and is superior in productivity is provided. An arbitrary object image and a recording surface in which  
5 representative points are disposed with predetermined pitches are defined by use of a computer. At the position of each individual representative point, a complex amplitude for the wave front of object light emitted from the object image is calculated, and a complex amplitude distribution is  
10 calculated on the recording surface. This complex amplitude distribution is expressed by a three-dimensional cell having a groove in the surface thereof. Four kinds of groove depths are defined in accordance with the phase  $\theta$ , and seven kinds of groove widths are defined in accordance  
15 with the amplitude A. Thereby, 28 kinds of three-dimensional cells in total are prepared, and a three-dimensional cell corresponding to the phase  $\theta$  and amplitude A of the complex amplitude for the representative point is disposed at the position of each  
20 representative point. One of the 28 kinds of three-dimensional cells is disposed at the position of each representative point on the recording surface, and thereby a hologram-recording medium is formed as a set of three-dimensional cells. A reconstructed image is obtained by the  
25 phase/amplitude modulating function of the groove part of each cell.

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